

REMARKS

Claims 7, 8, 11-14, 17-20, 23 and 24 are presently in the application. Claims 1-6, 9, 10, 15, 16, 21 and 22 have been canceled.

Paragraph 17 of the specification has been amended to correctly refer to reference numeral 5 as indicating the actuating element. Withdrawal of the objection to the specification is requested.

Claims 7, 8, 11-14, 17-20, 23 and 24 stand rejected under 35 U.S.C. 102(b) as anticipated by Voss et al (WO 0100473, with US 6,644,623 used as a translation) and with Gibas et al (US 5,402,093) being used as evidence.

Claim 7 is directed to a valve 1 for controlling fluids, comprising
an actuating element 5 for closing and opening an opening 14,
a restoring element 6 for restoring the actuating element 5 to its outset position,
a movably disposed armature 2 which is movable by means of an armature coil 3, said
actuating element 5 being connected to the armature 2,
a valve insert for guiding the actuating element 5,
a valve body having the opening 14 which is closed and opened by the actuating element
5 and
a throttle restriction associated with the opening 14, the improvement comprising
a multifunctional component 7 which includes the functions of the valve insert, the valve
body and the throttle in a single integrally molded, one-piece component produced by means of
a powder metallurgy process.

Applicant's specification teaches a "single component" produced by a powder metallurgy process, for example, by sintering or powder injection molding. In other words, applicant's "single component" is an integrally molded, one-piece component. Also, applicant's one-piece component performs the function of the valve insert, the valve body and the throttle restriction associated with the opening 14. See, paragraphs 18 and 20. Claim 7 has been amended to recite this feature of applicant's invention.

According to the examiner, Voss et al teaches a valve for controlling fluids, comprising a closing element 9 for closing and opening an opening 27, a restoring element 8 for restoring the closing element to its outset position, a movably disposed armature 13 which is movable by means of an armature coil, and a multifunctional component 3(25), 7 which includes the function of a valve body and the function of a throttle component in a "single component." The examiner finds that once the parts 3(25) and 7 are rigidly connected together, they form a single component.

Applicant takes issue with the examiner's finding that Voss et al teaches a throttle restriction associated with the opening 27. The opening 27 in Voss is just an opening. Contrary to the examiner's findings, no throttle restriction is taught to be associated with the opening 27 in Voss et al.

It is also noted that Voss et al does not mention a powder metallurgy process for forming the parts 3(25) and 7 into a single integrally molded, one-piece component. Instead, Voss et al teaches (in Fig. 1a) that the part 3(25) is formed as a cold extrusion pressed part and the part 7 is formed as a deep drawn part, which must then undergo a stamping process in order to form

the two valve-seat surfaces for the return valve 10 and the valve closing element 9. See, col. 2, ll. 7-15. In other words, parts 3(25) and 7 are separate parts which must be rigidly connected together after the parts are formed.

Applicant's claim 7 requires that the multifunctional component be produced by means of powder metallurgy processes. Claims 11 and 12 further define the powder metallurgy process as including sintering.

The examiner describes original claims 9-12 as "product by process" claims and states that the patentability of a product does not depend on its method of production. However, MPEP 2113 reminds examiners that:

The structure implied by the process steps **should be considered** when assessing the patentability of product-by-process claims over the prior art, especially where the product can only be defined by the process steps by which the product is made, or where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product. See, e.g., *In re Garnero*, 412 F.2d 276, 279, 162 USPQ 221, 223 (CCPA 1979) (holding "interbonded by interfusion" to limit structure of the claimed composite and noting that terms such as "welded," "intermixed," "ground in place," "press fitted," and "etched" are capable of construction as structural limitations.)
(Emphasis added)

The language "a single integrally molded, one-piece component produced by means of a powder metallurgy process" does, in fact, impart distinctive structural characteristics to the final product defined by claim 7, which are not found in Voss et al. Voss et al does not teach a multi-functional one-piece, integrally molded component, nor does Voss et al teach parts produced by means of a powder metallurgy process. Thus, Voss does not anticipate claim 7 or any of the claims dependent thereon.

Further, Voss et al does not teach a throttle restriction associated with the opening 27, much less that the function of the throttle restriction associated with the opening 27 is formed by a multi-functional one-piece, integrally molded component.

The examiner cites Gibas et al for a teaching of making "components" by a powder-metallurgical process and by sintering.

What Gibas et al actually teaches is that it was known prior to Gibas et al's invention to form an armature body, but not the rod supporting the armature body, of a solid ferromagnetic metal or a sintered or pressed-powder powder-metallurgical ferromagnetic product which is compressed radially to force material of the armature into grooves formed in the supporting rods. See, col. 1, ll. 20-41. Gibas et al's invention involves the support rod, which is composed of a synthetic resin material (i.e., a plastic) and preferably an injection-moldable plastic. See, col. 2, ll. 14-25.

Gibas et al does not teach or suggest forming both the armature body and the supporting rod as a multi-functional one-piece, integrally molded component. It would be impossible to do so, because the armature is made of metal and the support rod is made of plastic.

Gibas et al also does not teach a valve insert, a valve body and a throttle formed as a single integrally molded, one-piece component produced by means of a powder metallurgy process. Thus, Gibas et al is not relevant to the invention disclosed in Voss et al and adds nothing to that taught by Voss et al.

Claims 7, 11, 13, 17, 19 and 23 stand rejected under 35 U.S.C. 102(b) as anticipated by Mayer (DE 19910207, with US 6,637,724 used as a translation) and with Gibas et al being used as evidence.

Meyers teaches a sleeve 8, which the examiner describes as a one-piece component performing the functions of the valve body and the throttle component. However, there is no "throttle" mentioned or illustrated in Meyers. Again, as with Voss et al, Meyers simply teaches an opening 12, but there is no throttle associated with the opening 12.

Meyers also does not teach or suggest that the sleeve 8 is produced by means of a powder metallurgy process. In fact, it would not be possible to produce the sleeve 8 by a powder metallurgy process, because Meyers teaches that the flange 20 of the sleeve 8 is created by reshaping, such as upsetting of the sleeve. See, col. 2, ll. 41-42. Thus, Meyers does not anticipate claim 7 or any of the claims dependent thereon.

Gibas et al does not teach or suggest forming both the armature body and the supporting rod as a multi-functional one-piece, integrally molded component. It would be impossible to do so, because the armature is made of metal and the support rod is made of plastic.

Gibas et al also does not teach a valve insert, a valve body and a throttle formed as a single integrally molded, one-piece component produced by means of a powder metallurgy process. Thus, Gibas et al is not relevant to the invention disclosed in Meyers and adds nothing to that taught by Meyers.

Claims 7, 11, 13, 17, 19, and 23 stand rejected under 35 U.S.C. 102(b) as anticipated by Linker, Jr. et al (US 6,345,870) and with Gibas et al being used as evidence.

Linker teaches a valve seat 36 including an annular collar 80, which the examiner describes as a multifunctional component which includes the functions of the valve body and the throttle. However, there is no “throttle” mentioned or illustrated in Linker, Jr. et al. Again, as with Voss et al and Meyers, Linker, Jr. et al simply teaches an opening (unnumbered), but there is no throttle associated with the opening.

Linker, Jr. et al also does not teach or suggest that the part 36, 80 is produced by means of a powder metallurgy process. Thus, Linker, Jr. et al does not anticipate claim 7 or any of the claims dependent thereon.

Gibas et al does not teach or suggest forming both the armature body and the supporting rod as a multi-functional one-piece, integrally molded component. It would be impossible to do so, because the armature is made of metal and the support rod is made of plastic.

Gibas et al also does not teach a valve insert, a valve body and a throttle formed as a single integrally molded, one-piece component produced by means of a powder metallurgy process. Thus, Gibas et al is not relevant to the invention disclosed in Linker, Jr. et al and adds nothing to that taught by Linker, Jr. et al.

Claims 8, 12, 14, 18, 20 and 24 stand rejected under 35 U.S.C. 103(a) as unpatentable over Mayer in view of Voss et al and as evidenced by Gibas et al and claims 8, 12, 14, 18, 20, and 24 stand rejected under 35 U.S.C. 103(a) as unpatentable over Linker, Jr. et al in view of Voss et al and as evidenced by Gibas et al.

The combined teachings of Mayer, Voss et al and Gibas et al and the combined teachings of Linker, Jr. et al, Voss et al and Gibas et al each lack a teaching of a valve insert, a valve body

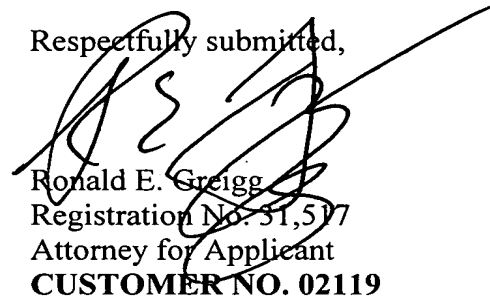
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having an opening and a throttle restriction associated with the opening formed as a single integrally molded, one-piece component produced by means of a powder metallurgy process. Therefore, even if it had been obvious to combine the various teachings of the references as suggested by the examiner, one of ordinary skill in the art would not have obtained or arrived at the subject matter defined by 8, 12, 14, 18, 20, and 24.

The Commissioner is hereby authorized to charge any necessary fees in connection with this communication to Deposit Account Number 07-2100.

Entry of the amendment and allowance of the application are respectfully requested.

Respectfully submitted,



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